Animal & Plant Health Agency

Zoonoses and Veterinary Public Health

Quarterly report Q3 – July to September 2024

Project FZ2100

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Background

Monitoring the occurrence of certain animal diseases can highlight the potential for zoonotic transmission and provide an indication of human, environmental, and foodborne health risks. These Zoonoses and Veterinary Public Health quarterly reports summarise the surveillance activities of the Animal and Plant Health Agency (APHA), APHA partner postmortem providers and Scotland's Rural College (SRUC) Veterinary Services, for zoonoses and infections shared between humans and animals in Great Britain. Data (which primarily relates to farmed animal species) gathered by the network of Veterinary Investigation Centres is used for the production of these quarterly report summaries. Quantitative diagnostic data for all of Great Britain is provided by the Veterinary Investigation Diagnosis Analysis (VIDA) surveillance system. Summaries of veterinary public health investigations into incidents and outbreaks of zoonotic disease and associated activities are also included. This report covers the relevant VIDA data and zoonoses investigations for the third quarter, July to September 2024 (Q3 2024).

The Zoonoses and Veterinary Public Health project (designated the FZ2100 project) is funded by Defra, the Scottish Government and the Welsh Government through the APHA's Bacterial Diseases and Food Safety portfolio. The FZ2100 project also uses returns from scanning surveillance projects.

This report provides information about non-statutory zoonoses, as well as *Coxiella burnetii* (Q fever), avian chlamydiosis (in psittacines), and brucellosis in dogs, which were made reportable in Great Britain in 2021. The detection of *C. burnetii* and brucellosis in dogs were made reportable through amendments to the Zoonoses Order (2021). The Psittacosis (Ornithosis) Order is the legislation that covers avian chlamydiosis. Non-statutory zoonoses are defined as any zoonoses for which no specific animal-health derived legislation exists, and so excludes *Salmonella* and those diseases which are compulsorily notifiable in specified animal species, for example, tuberculosis (TB), which is notifiable in all mammals. Information concerning notifiable and other reportable zoonoses is recorded elsewhere, some under specific projects such as FZ2000 (*Salmonella*).

1. General scanning surveillance

1.1 Zoonoses VIDA data for Great Britain: July to September 2024

Table 1 (collated 7 November 2024) summarises general scanning surveillance VIDA data for clinical diagnoses of potential zoonotic organisms that may be shared between animals and humans from specimens submitted to APHA, APHA partner postmortem providers and SRUC Veterinary Investigation Centres for the 3-month period between July and September 2024. The table also compares the latest findings with the data for Q3 for the preceding 2 years, 2023 and 2022. It includes rare zoonotic infections and those for which zoonotic potential is confined predominantly to immunocompromised individuals. Diagnoses use strict criteria and are recorded, once per incident, using the VIDA system.

The list is subject to selection, submission, and testing bias. It is not definitive and excludes notifiable and most reportable diseases, notably salmonellosis, which is recorded elsewhere.

Table 1. General scanning surveillance: Zoonoses VIDA data for Great Britain, July to September 2024 – all species

Table notes:

- species columns are: Cattle; Sheep; Goats; Pigs; Birds; Misc. which includes miscellaneous and exotic farmed species; and Wildlife
- '-' in a cell indicates that a diagnosis is not available for that species
- birds: data for birds includes domestic and wild birds
- wildlife: data for wildlife includes mammals only

VIDA codes	Diagnosis	Q3 2022	Q3 2023	Q3 2024	Cattle	Sheep	Goats	Pigs	Birds	Misc.	Wildlife
311	Babesiasis	11	13	7	7	-	-	-	-	-	-
258, 659	*Brachyspira pilosicoli* (intestinal spirochaetosis)	15	19	47	-	-	-	45	2	-	-
013	*Campylobacter* fetopathy	2	0	0	0	0	0	-	-	0	0
282	Chlamydiosis (*C. psittaci*)	0	0	0	-	-	-	-	0	-	-
014	*Chlamydia abortus* fetopathy	0	0	0	0	0	0	-	-	0	0
732	*Corynebacterium pseudotuberculosis* (CLA)	9	8	7	-	5	2	-	-	-	-
318	Cryptosporidiosis	38	42	31	31	0	0	0	0	0	0
362	Cysticercosis	0	0	1	-	1	0	-	-	-	-
193	*Dermatophilus* infection	0	4	1	1	0	0	-	-	0	0
022, 133, 615	Erysipelas	4	3	4	-	0	0	3	1	0	-
371, 372, 373	Fasciolosis	31	24	21	8	11	1	-	-	1	0
363	Hydatidosis	0	0	0	-	0	-	-	-	-	-

VIDA codes	Diagnosis	Q3 2022	Q3 2023	Q3 2024	Cattle	Sheep	Goats	Pigs	Birds	Misc.	Wildlife
015, 136, 139	Leptospirosis (all categories)	1	0	2	1	0	0	1	-	0	0
016, 140, 150, 189, 711	Listeriosis (all categories)	8	11	16	7	8	0	0	0	0	1
217	Louping ill	16	19	1	0	1	-	-	0	0	-
225	Orf (parapox virus)	12	13	7	-	7	0	-	-	0	-
152,153, 157, 158	*Pasteurella multocida* pneumonia (pasteurellosis)	40	48	41	26	9	0	4	2	0	0
223	Pseudocowpox (parapox virus)	0	0	0	0	-	-	-	-	-	-
027, 262	Q Fever (*Coxiella burnetii)*	0	0	0	0	0	0	-	-	0	0
374	Red Mite *(Dermanyssus gallinae)*	3	0	2	-	-	-	-	2	-	-
195	Ringworm	2	4	1	0	1	0	0	0	0	0
379, 392	*Sarcoptes scabei* infection	0	0	1	0	-	0	1	-	0	-
024, 171, 172, 644	Streptococcal infection (excluding bovine mastitis)	22	22	29	0	0	1	28	0	0	0
745	Swine influenza	2	10	9	-	-	-	9	-	-	-
026, 315	Toxoplasmosis, including fetopathy	1	2	0	-	0	0	-	-	0	0
142	Tuberculosis, excluding bovine *M. bovis*	3	2	7	-	0	0	1	4	2	0
034, 154	Yersiniasis (including fetopathy*)*	3	2	7	2	0	0	5	0	0	0

The table is intended only as a general guide for veterinary and public health professionals to the diagnosed occurrence of animal-associated infections in predominantly farmed animal species in Great Britain.

Common minor diseases of zoonotic importance, such as orf and ringworm, are grossly underestimated by the VIDA recording and reporting system, as it is unusual for practising veterinary surgeons to submit material for diagnosis.

The increased diagnoses of *Brachyspira pilosicoli* for Q3 2024 compared to Q3 2023 and Q3 2022 is related to increased submissions for testing for swine dysentery (*B. hyodysenteriae*) in pigs. This increased testing has resulted in an increased detection of *B. pilosicoli* and should not be taken to indicate the prevalence of *B. pilosicoli* has changed when compared to previous years.

Read the animal disease scanning surveillance at APHA - GOV.UK

1.2 Highlights from APHA and SRUC disease surveillance centres

This section provides information on a few noteworthy findings of zoonotic interest from material submitted to the APHA (England and Wales), APHA partner postmortem providers and SRUC Veterinary Services (Scotland) during July to September 2024.

Further information is provided in the quarterly reports by the APHA species groups and the monthly surveillance reports in the Vet Record derived from scanning surveillance.

The species expert group quarterly reports provide comprehensive details on scanning surveillance activities, covering avian, cattle, small ruminant, pigs, miscellaneous and exotic farmed species, and wildlife.

Listeria monocytogenes **in two neonatal suckler calves**

Septicaemia, due to *Listeria monocytogenes*, was identified as the cause of death of two neonatal calves which were submitted to investigate increasing mortality in a suckler herd. Affected calves were seen to be lethargic and were treated symptomatically with procaine penicillin but deteriorated and died, exhibiting seizure-like activity in the terminal stages. The cows were housed in cubicles and were being fed silage. Although the cows typically calved in a straw pen, one or both of the submitted calves may have been born in the cubicles.

Postmortem examination (PME) of one calf revealed a thickened umbilicus and a dark red-purple appearance to the brain with engorgement of the meningeal vasculature and a slight opacity to the meninges. Fibrinous strands were present overlying the meninges, with extensive fibrin deposition and oedema on the ventral aspect of the brain. PME of the

second calf revealed a diffuse, mottled, red-brown appearance to the liver with small, white-brown foci scattered throughout the parenchyma.

L. monocytogenes was cultured in heavy pure growth from the brain and liver of the first calf, and in very heavy growth as part of a mixed flora from the liver of the second calf. Histopathological examination of the first calf revealed a severe, fibrinosuppurative meningoencephalomyelitis, with immunohistochemistry revealing abundant short, gram-positive rods, consistent with *L. monocytogenes*.

A review of the risk for exposure to *L. monocytogenes* was advised including assessing any exposure to mouldy, high-risk silage, assessing calving environment hygiene including any exposure to wet, muddy or faecal-contaminated areas, ensuring prompt and effective navel treatment, and reviewing colostrum quality/availability to reduce the risk of further losses within the herd.

Listeriosis in people who work with livestock is rarely reported. *L. monocytogenes* is a ubiquitous environmental organism, for example present in contaminated soil and can also be a serious cause of food poisoning in humans.

Leptospirosis in two jaundiced fox cubs

This is an update on the serological findings for two of the foxes that had *Leptospira* PCR positive kidney results in the preceding quarter. Both were jaundiced fox cubs. One of the cubs had positive results for two *Leptospira* pools, but when the serum was screened through the multiple pool serology test subsequent individual tests for the serovars within these groups were all <1/100 (the minimum level of detection). In the other fox cub, serological screening results were negative to all pathogenic *Leptospira* serovars. It was thought that acute/peracute leptospirosis was the cause of death in both fox cubs, with limited time for seroconversion.

2. Specific scanning and targeted surveillance and other studies

2.1 Campylobacter

Human campylobacteriosis is usually caused by the thermophilic *Campylobacter* species *C. jejuni* and *C. coli*, which can be found in a wide range of livestock, poultry and wildlife species. Poultry and poultry meat products are the main sources for human infection, and campylobacteriosis is the most commonly reported bacterial cause of food poisoning. The United Kingdom Food Security Report 2021 indicated that there were 54,979 laboratory-confirmed infections in 2020, 68,006 in 2019, and 67,984 in 2018. Note, there may have been an impact of the COVID-19 pandemic on the 2020 figures.

This Zoonoses and Veterinary Public Health report does not cover foodborne illness related to *Campylobacter* infection. However, non-thermophilic *Campylobacter* strains

(such as *C. fetus*) can also, rarely, cause severe systemic illness in people. Only *Campylobacter* fetopathy numbers are detailed in Table 1 above.

England and Wales

During Q3 2024 no *Campylobacter* isolates were identified by the APHA Starcross laboratory.

Scotland

SRUC Veterinary Services had a total of 27 *Campylobacter* isolates during Q3 2024 which were all for canine enteric cases:

- Canine – a total of 27 isolates: 10 *C. upsaliensis,* 16 *C. jejuni,* and 1 *C. lari*.

2.2 Leptospirosis

Targeted surveillance by APHA for leptospirosis is variously achieved by analysis of results from:

1. RT(real-time) polymerase chain reaction (PCR) for pathogenic leptospires on appropriate diagnostic samples.

2. Microscopic agglutination test (MAT) antibody testing on sera submitted for disease diagnosis; or for monitoring and export (mainly dogs). Diagnostic MAT titres are considered seropositive at 1/100 or above (1/50 for *L.* Hardjo bovis in cattle).

3. Milk antibody testing by enzyme-linked immunosorbent assay (ELISA) of bulk tank samples submitted from dairy herds for monitoring purposes.

The last two methods are influenced by vaccination (dogs and cattle). MAT results are also very dependent on the range of serology (pools or single serovars) undertaken.

Kidney specimens examined by RT-PCR for pathogenic leptospires

Between July and September 2024, a total of 120 kidney specimens (kidneys from 10 cattle, 105 pigs, 1 sheep and 4 foxes) were tested by RT-PCR for pathogenic leptospires. There were 8 positive kidney test results, all from pigs. Seven of the submitted samples (6 porcine, 1 ovine) were unsuitable for testing because they were too autolysed.

Serology for *Leptospira* serovars

During Q3 2024, a total of 454 serum samples from a range of species were tested for *Leptospira* antibodies. Of these, 125 canine sera were tested for export purposes and 34 canine sera were tested for diagnostic purposes. There were 182 porcine samples which were tested for *L.* Bratislava, and 87 bovine samples were tested for *L.* Hardjo bovis.

Table 2. Single *Leptospira* serovars tested in dogs, pigs, and cattle expressed as percentage positive for the number of samples tested for each serovar

Table notes:

- more than one serovar may be detected in a serum sample
- abbreviations used in this table:
    - Canine E. = canine export (dogs tested for export purposes)
    - Canine D. = canine diagnostic (dogs tested for diagnostic purposes)
- the total tested columns are the numbers of samples tested for each serovar
- % positive is the percentage of each tested serovar which gave a positive result, for example 20% of 125 canine export samples tested were positive for *L.* Canicola antibodies

Species	Serovar	Total tested: Q3 2024	% positive	Total tested: Q3 2023	% positive
Canine E.	*L.* Canicola	125	20	111	7.2
Canine E.	*L.* Icterohaemorrhagiae	13	0	8	0
Canine D.	*L.* Australis	6	33.3	8	87.5
Canine D.	*L.* Autumnalis	6	16.7	8	0
Canine D.	*L.* Bratislava	31	3.2	34	5.9
Canine D.	*L.* Canicola	27	22.2	41	29.3
Canine D.	*L.* Copenhagenii	34	17.6	33	45.5
Canine D.	*L.* Grippotyphosa	6	66.7	4	25
Canine D.	*L.* Icterohaemorrhagiae	34	0	34	20.6
Canine D.	*L.* Pomona	6	16.7	5	0
Canine D.	*L.* Sejroe	5	20	1	0
Porcine	*L.* Bratislava	182	4.4	108	32.4
Bovine	*L.* Hardjo bovis	87	20.7	218	5.5

In addition to single serovars, *Leptospira* pools (multiple serovars) are tested on a significant number of canine, porcine, and bovine samples. Pooled serovars are not included in the above data.

L. Hardjo bulk milk antibody tests

Between July and September 2024 there were 10 bulk milk *L.* Hardjo antibody tests for monitoring purposes, which gave the following results: 3 (30.0%) were negative, 2 (20.0%) were low positive, 2 (20.0%) were mid positive, and 3 (30.0%) were high positive.

For comparison, between July and September 2023 there were 3 bulk milk *L.* Hardjo antibody tests (for monitoring purposes), which gave the following results: 0 (0%) were

negative, 1 (33.3%) was low positive, 0 (0%) were mid positive, and 2 (66.7%) were high positive.

The significance of these observations is heavily influenced by vaccination status and selection, although it is thought unlikely that fully vaccinated herds contributed many samples. Low submission numbers also make comparisons across the two years difficult.

2.3 Mycobacteria (excluding bovine cases of *M. bovis*)

Since *Mycobacterium bovis* became notifiable in all species in 2006, the number of samples examined by APHA has increased, particularly from pets and camelids. Samples from pigs are mainly submitted by Official Veterinarians at abattoirs.

The APHA testing protocol has changed, and since 30 March 2022 all new submissions from non-bovine animals have been tested by PCR, which detects the *M. tuberculosis* complex and *M. bovis*. If positive for the *M. tuberculosis* complex and *M. bovis*, the sample is sent for culture to establish the whole genome sequencing (WGS) clade of *M. bovis*.

If positive for the *M. tuberculosis* complex and negative for *M. bovis*, an unvalidated PCR for *M. microti* is carried out. If the PCR is positive for *M. microti*, there is no further testing. If the PCR for *M. microti* is negative, culture is carried out to establish the Mycobacterium present (possibilities include other members of the *M. tuberculosis* complex such as *M. tuberculosis* or *M. caprae*).

This testing protocol means that we do not receive results for as wide a range of non-statutory *Mycobacterium* sp. as compared to the historic testing protocols. An update on test results will be provided in the annual report.

2.4 Q fever

PCR is used to confirm the presence of *Coxiella burnetii*, typically following the identification of suspicious acid-fast bodies in Modified Ziehl-Neelsen (MZN)-stained smears of placentae (or foetal samples). Confirmation of Q fever as a cause of fetopathy requires histopathology and immunohistochemistry of placental tissue, in addition to a positive PCR result. In each case when *C. burnetii* is detected by PCR, public health colleagues are informed of the incident and the zoonotic potential of this organism is highlighted to the farmer and private veterinary surgeon, with the provision of an advisory sheet about Q fever.

Comparisons of Q fever data with previous years should be made with caution because from April 2021 Q fever has been a reportable disease. Since 2023 there has been a notable increase in bovine test requests for the APHA *C. burnetii* PCR test. It is important to note that an increase in the detection of *C. burnetii* does not necessarily equate to an increased prevalence.

During the period July to September 2024 a total of 34 samples (from 29 cattle submissions) were tested for the presence of *C. burnetii* by PCR at the APHA Q fever National Reference Laboratory, Penrith Veterinary Investigation Centre. The samples comprised 16 placental samples, 5 foetal fluid samples, 5 vaginal swabs, 6 unspecified swabs and 2 brain samples. The *C. burnetii* PCR has been validated for placental and foetal fluid samples, although other samples are also tested on agreement with the customer.

Twenty four samples tested positive for *C. burnetii* which were from 19 submissions. Further information about the positive submissions is provided in section 3.4.

In addition, the detection of *C. burnetii* in 9 bovine bulk milk samples by PCR at an overseas laboratory (8 from English dairy farms, one from a Welsh dairy farm) were reported to APHA.

2.5 *Streptococcus suis*

Streptococcus suis isolates from diagnostic material submitted to APHA and SRUC Veterinary Investigation Centres are typed further for disease surveillance purposes. The submission numbers and serotypes from porcine diagnostic material submitted during the period July to September 2024 are shown below, with data for the previous 2 years (Q3 2023 and Q3 2022) for comparison.

Table 3. *Streptococcus suis* serotypes from porcine diagnostic material

Table notes:

- UT = untypeable
- 1/2 = is a recognised distinct serotype which reacts with both 1 and 2 antisera

	1	2	3	4	7	8	9	12	14	15	19	21	29	33	1/2	UT	Total
Q3 2022	3	9	1	-	1	-	-	-	-	-	-	-	-	-	-	1	**15**
Q3 2023	1	4	1	-	3	-	-	-	-	-	-	-	-	-	1	1	**11**
Q3 2024	4	8	-	1	-	-	1	-	1	-	1	1	1	-	-	4	**22**

Serotype 2 was the most common serotype in Q3 for all three years, 2022, 2023 and 2024.

2.6 Toxoplasmosis

The European Food Safety Authority (EFSA Journal 2007, 583, 1 to 64) highlighted the significance of toxoplasmosis as a foodborne zoonosis and the need to improve surveillance in this field. Serological examinations for *Toxoplasma gondii* using the latex agglutination test (LAT) are undertaken by the APHA on sera submitted to Veterinary Investigation Centres. The findings presented below provide a summary of the serological status of samples submitted for diagnosis, monitoring and screening purposes during the period July to September 2024, but do not constitute a structured survey. Positive samples, as defined here, have LAT titres of 1/64 or greater and indicate a history of exposure to this protozoan parasite. Toxoplasmosis as a cause of fetopathy in sheep and goats is diagnosed through antigen (PCR) testing of placental cotyledon.

During Q3 2024, fourteen ovine samples were submitted for Toxoplasma serology. There were nine positive titres. Toxoplasma fetopathy figures for sheep and goats are provided in Table 1.

3. Investigations into zoonotic and potentially zoonotic incidents

Protocols for the investigation of zoonotic disease incidents in England and Wales are set out in the Guidelines for the Investigation of Zoonotic Disease (England and Wales).

There is similar guidance on the investigation and management of zoonotic disease in Scotland.

Advice for members of the public planning a trip to animal-associated visitor attractions, and other information, can be found on the UK Health Security Agency (UKHSA) zoonotic disease webpage.

The Industry Code of Practice for preventing or controlling ill health from animal contact at visitor attractions is available on the National Farm Attractions Network website.

The APHA-assisted investigations described within sections 3.1 Cryptosporidiosis, 3.2 STEC (Shiga toxin-producing *Escherichia coli*) and 3.3 *Corynebacterium ulcerans* cover England and Wales.

3.1 Cryptosporidiosis

Investigations to assist in human outbreaks of cryptosporidiosis linked to direct contact with animals are undertaken at the request of Consultants in Communicable Disease Control (CsCDC) of the UKHSA and Public Health Wales (PHW) and in collaboration with the National Cryptosporidium Reference Unit, Swansea, and follow jointly agreed guidelines. Consultants in Public Health Medicine (CsPHM) lead on these zoonoses investigations in Scotland.

Quarter 2 (Q2) is traditionally the busiest time for cryptosporidiosis investigations and is related to the frequency of open farm visits undertaken by families or school groups around the Easter holiday and bank holidays. Contact with young lambs either through bottle-feeding or handling is a high risk activity for the zoonotic spread of *Cryptosporidium parvum* in these settings. The availability and accessibility of appropriate and suitably located hand-washing facilities including soap, rather than antimicrobial gel (which is not effective for this pathogen) is extremely important. During the investigation of cryptosporidiosis human outbreaks APHA provides comprehensive veterinary advice including advice on identified deficiencies to assist farm businesses to comply with the Industry Code of Practice for preventing or controlling ill health from animal contact at visitor attractions. This year, some farm visitor attractions were offering cuddling of young lambs and piglets to visitors. This involves close contact, potential prolonged contact, and potential for clothing and footwear contamination. Activities like these increase the risk of zoonotic transmission of a range of zoonotic organisms.

There were no cryptosporidiosis investigations during Q3 2024.

3.2 STEC

Shiga toxin-producing *Escherichia coli* (STEC, formerly known as VTEC) outbreak investigations are undertaken, according to agreed guidelines, at the request of CsCDC of UKHSA and PHW (CsPHM in Scotland) where an animal-associated source is suspected. These investigations often also involve collaboration with other organisations, including the environmental health departments of local authorities and the Health and Safety Executive (HSE). Determination of virulence factors, including shiga toxin genes and comparison of human and animal isolates by whole genome sequence (WGS) analysis, are performed by the Gastrointestinal Bacteria Reference Unit (GBRU), UKHSA Colindale. If isolates from animals circumstantially implicated in outbreaks have an indistinguishable WGS profile to those from human cases, this is taken as confirmatory evidence of the epidemiological link. Other STECs or WGS types may be detected incidentally during the investigation of animal premises.

During Q3 2024 APHA assisted with the investigation of three STEC outbreaks, two involving open farms (one STEC O26, one STEC O157) and one involving unpasteurised milk (STEC O145). APHA visited both open farms and provided veterinary advice regarding compliance with the Industry Code of Practice for preventing or controlling ill health from animal contact at visitor attractions. Sampling was also done for the STEC O157 outbreak which resulted in the detection of the human outbreak strain of STEC O157 in four freshly voided animal faeces samples.

It is recommended that all open-farm attractions (and other venues where close or direct contact by members of the public with animals is anticipated) are fully compliant with the Industry Code of Practice. The most frequently identified deficiencies at animal contact visitor attractions (including open farms) include suboptimal handwashing facilities (number, accessibility, appropriateness); suboptimal supervision of animal contact; contamination of walkways with soiled animal bedding or faeces; and unclear demarcation of animal contact versus non-contact areas.

A farm's private veterinary surgeon is another source of advice and support, including the development and review of animal health plans.

3.3 *Corynebacterium ulcerans*

Corynebacterium ulcerans was first isolated from cases of throat infection in humans in 1926, with zoonotic outbreaks initially associated with direct contact with farm animals or consumption of unpasteurised milk. More recently zoonotic incidents have been associated with contact with companion animals such as dogs and cats. *C. ulcerans* can be asymptomatically carried in the throat of some dogs and cats. *C. ulcerans* has also been isolated from skin lesions, nasal discharge, and other anatomical sites of clinically unwell dogs and cats. The organism can produce diphtheria toxin, which can produce human disease with the same clinical signs as cutaneous or respiratory diphtheria caused by *C. diphtheriae*.

APHA and SRUC Veterinary Services in Scotland assist public health colleagues in the investigation of human index cases of *C. ulcerans* where there has been animal contact. Similarly; for animal index cases, APHA/SRUC vets will support the private veterinary surgeon and provide animal related advice. The guidance for the public health management of toxigenic *C. ulcerans* in companion animals in England is available online: Public health management of toxigenic C. ulcerans in companion animals.

Toxigenic *C. ulcerans* investigations are multidisciplinary and APHA works closely with public health colleagues to investigate, manage, and provide advice regarding the animals involved. Typically, APHA will also liaise closely with the private veterinary surgeon to facilitate the taking of and testing of swabs, antibiotic treatment, and post-treatment clearance swabs as appropriate. APHA also provides advice on health and safety procedures for private veterinary surgeons and pet owners, including information on cleaning of pet bedding and pet toys. For animal index cases comprehensive information is available in the companion animal public health guidance (see above link).

During Q3 2024 APHA assisted the UKHSA Health Protection Teams (HPTs) with 20 toxigenic *C. ulcerans* incidents, of which 15 were companion animal index cases, one was an animal index case involving a cow, and four were human index cases.

Of the 15 companion animal index cases, 11 were dogs and 4 were cats. The clinical presentations were as follows: 2 of 15 involved skin lesions (2 dogs); 2 of 15 involved otitis externa (1 cat and 1 dog), 5 of 15 involved infected wounds (1 cat and 4 dogs), 5 of 15 involved nasal discharge/upper respiratory signs (2 cats and 3 dogs), and one dog had nasal neoplasia.

APHA recommends surveillance swabbing of pet cats and dogs that are in the same household as an animal index case to investigate if there has been any animal-to-animal transmission. Surveillance swabbing of household contact animals was undertaken for 6 of the animal index cases, with a total of 8 contact animals swabbed. Toxigenic *C. ulcerans* was not detected in the household contact animals for 5 animal index cases, and was

detected in 2 contact dogs from a multi-dog household. All of the dogs in the multi-dog household were treated with antibiotics.

The case of bovine toxigenic *C. ulcerans* involved a non-pregnant cow that presented with a mastitis infection. The cow was treated with antibiotics, and as she was no longer productive (dried-off and not pregnant), she was permanently removed from the milking herd. This is the first report of bovine *C. ulcerans* for a number of years.

There was also a case of *C. diphtheriae* in a horse which had sustained wounds to its legs. The horse was treated and has recovered.

Nine of the companion animal index cases identified in Q3 2024 have concluded, with no detection of *C. ulcerans* on bacteriology cultures of post-antibiotic clearance swabs of all of the index animals. Of the four human index cases, pets were followed up in two cases. These were two dogs for both cases. There was no detection of C. ulcerans in oro-pharyngeal swabs from the four dogs.

3.4 Q fever *(Coxiella burnetii)*

In each case when *C. burnetii* is detected by PCR, public health colleagues are informed of the incident and the zoonotic potential of this organism is highlighted to the farmer and private veterinary surgeon, with the provision of an advisory sheet about Q fever.

For all ruminant abortion investigations and reports of the detection of *C. burnetii*, APHA provides comprehensive advice to private veterinary surgeons, including information about optimising ruminant abortion investigations, laboratory testing, and zoonoses advice for private vets to pass on to their farmer clients.

Transmission of *C. burnetii* to humans is most frequently due to inhalation of contaminated aerosols or contaminated dusts. Aerosolized bacteria are spread in the environment by infected animals after normal births or abortion. Birth products contain the highest concentration of bacteria, but *C. burnetii* is also found in urine, faeces and milk of infected animals.

During Q3 2024 there were 15 separate farms where *C. burnetii* was detected by PCR in a total of 24 bovine samples that were tested at the APHA UK National Reference Laboratory for Q fever. Of the 15 farms, 12 were English farms (11 dairy farms, one beef farm), two were Welsh farms (one dairy farm, one beef farm), and one was a Scottish dairy farm. The majority of these were bovine abortion cases. Two farms had problems with stillborn calves. Veterinary investigations for three farms involved several submissions of bovine abortion samples, in which *C. burnetii* was detected. There were no reported zoonoses concerns for these submissions and also no reported zoonoses concerns for the follow-up of the nine reported bulk milk *C. burnetii* PCR positive dairy herds.

3.5 Avian chlamydiosis (psittacosis)

Chlamydia psittaci, the causative agent of avian chlamydiosis (psittacosis), can cause serious human illness. The disease has been described in many species of birds, particularly in parrots, parakeets, budgerigars, and cockatiels. Other commonly affected birds include pigeons and doves. Ducks and turkeys may also be affected, but chickens less frequently. Birds can asymptomatically carry the organism without any signs of disease, or they can become mildly to severely ill.

C. psittaci can lead to inapparent subclinical infection or acute, subacute, or chronic disease, characterised by respiratory, digestive, or systemic infection. The clinical signs are generally non-specific and vary greatly in severity, depending on the species and age of the bird and the *Chlamydia* strain involved. Humans are most likely to contract *C. psittaci* infection through inhalation of dust or aerosols contaminated by secretions from infected birds for example faeces, ocular and respiratory secretions. It is therefore important to follow current health and safety measures when in contact with birds. Further information on psittacosis infection is available online at: Psittacosis - UKHSA guidance and Psittacosis - HSE factsheet.

The detection of *C. psittaci* in psittacine birds is statutorily reportable to APHA. During Q3 2024 there was one report of the detection of *C. psittaci* in a pooled faeces sample by PCR testing that had been performed at a private veterinary laboratory. The sample was from a group of seven budgerigars, which were part of a private collection.

The private veterinary surgeon reported the budgies in the affected group had presented with severe mucoid rhinitis. They had been treated, and had initially responded to treatment, however there was a relapse of clinical signs. Postmortem of one bird revealed a purulent airsacculitis. Further antibiotic treatments were administered and the vet advised that good biosecurity practices were in place, with the bird owner aware of zoonotic potential. There was no reported human illness.

4. *Brucella canis*

Since July 2020, there has been a large increase in the number of incidents of canine brucellosis due to infection with *Brucella canis.* APHA, in liaison with health protection agencies across Great Britain, has been involved in investigating these incidents. The UK Chief Veterinary Officer advised on this potential zoonotic disease in a letter published in the Vet Record in February 2021. Amendments to the Zoonoses Order in 2021 added dogs to the list of animals for which brucellosis is a reportable disease in Great Britain.

Further information is available in APHA's Canine Brucellosis: Summary information sheet and in our list of frequently asked Brucella canis testing questions.

General information for the public and dog owners is available on the GOV.UK website.

The Human Animal Infections and Risk Surveillance group (HAIRS) Brucella canis risk assessment outlines the current risk to the UK human population from canine brucellosis.

The British Small Animal Veterinary Association (BSAVA) have published a scientific document on Brucella Canis.

During Q3 of 2024, there were 66 epidemiologically separate incidents where there was strong evidence of infection with *B. canis*. All 66 were identified by serology, and presented at least one other risk factor for *B. canis* infection, and were reported to the relevant public health authorities. All incidents identified during this quarter involved the testing of a single dog, although this may be subject to change if further information about significant contacts becomes available.

Ten other dogs were also tested and found to be seropositive for *B canis* but there were no other risk factors identified, and these did not therefore trigger an incident investigation.

Investigation into an incident that commenced in the first quarter of this year, involving a dog breeder, is continuing with the cooperation and joint management of several different government departments.

In addition to providing information about *B. canis*, APHA's Imported disease summaries for Dogs and Cats (August 2022) document provides a short summary of some other diseases that could be imported into the UK with the importation of dogs and cats. This list is not exhaustive but provides a useful summary and signposts to further information for some conditions of concern.